

ENVRIPLUS IMPACT AND ACHIEVEMENTS

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Supporting environmental research
with integrated solutions
- **the Earth is our lab**

IMPACT AS DEFINED IN ENVRI PROJECT PROPOSAL

- Impact at single RI level
- Impact on the EU RI governance and operations:
- Impact of quality, quantity and diversity of services offered by RIs:
- Innovative use of data and data-products :
- Building new scientific knowledge:
- Increased capacity for joint management of environmental crisis;
- Addressing the needs for standardization for essential environmental variables :
- Favouring links with the private-sector



ENVRIPLUS APPROACH



An ENVRI Reference model concept

plus
ENVRI



H2020 Project

Project Number: 654182

Community building

Preparation

Operational

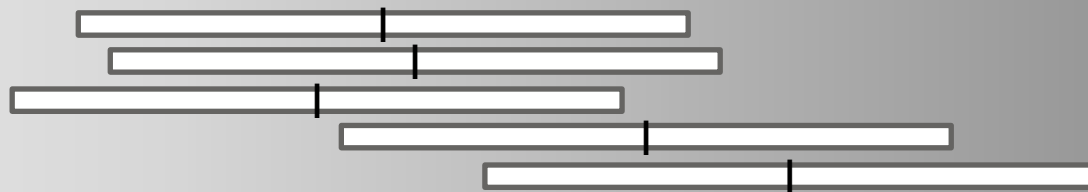
ESFRI
Process

ESFRI
Roadmap
Proposal

ESFRI
Landmark
Evaluation

ESFRI
Impact
Evaluation

National
Network
development



Governance

Stakeholder
Interim
Committee

General Assembly

EU
Support

Community
building
(IP, I3, IA)

Preparatory Phase
Project

Landmark Project

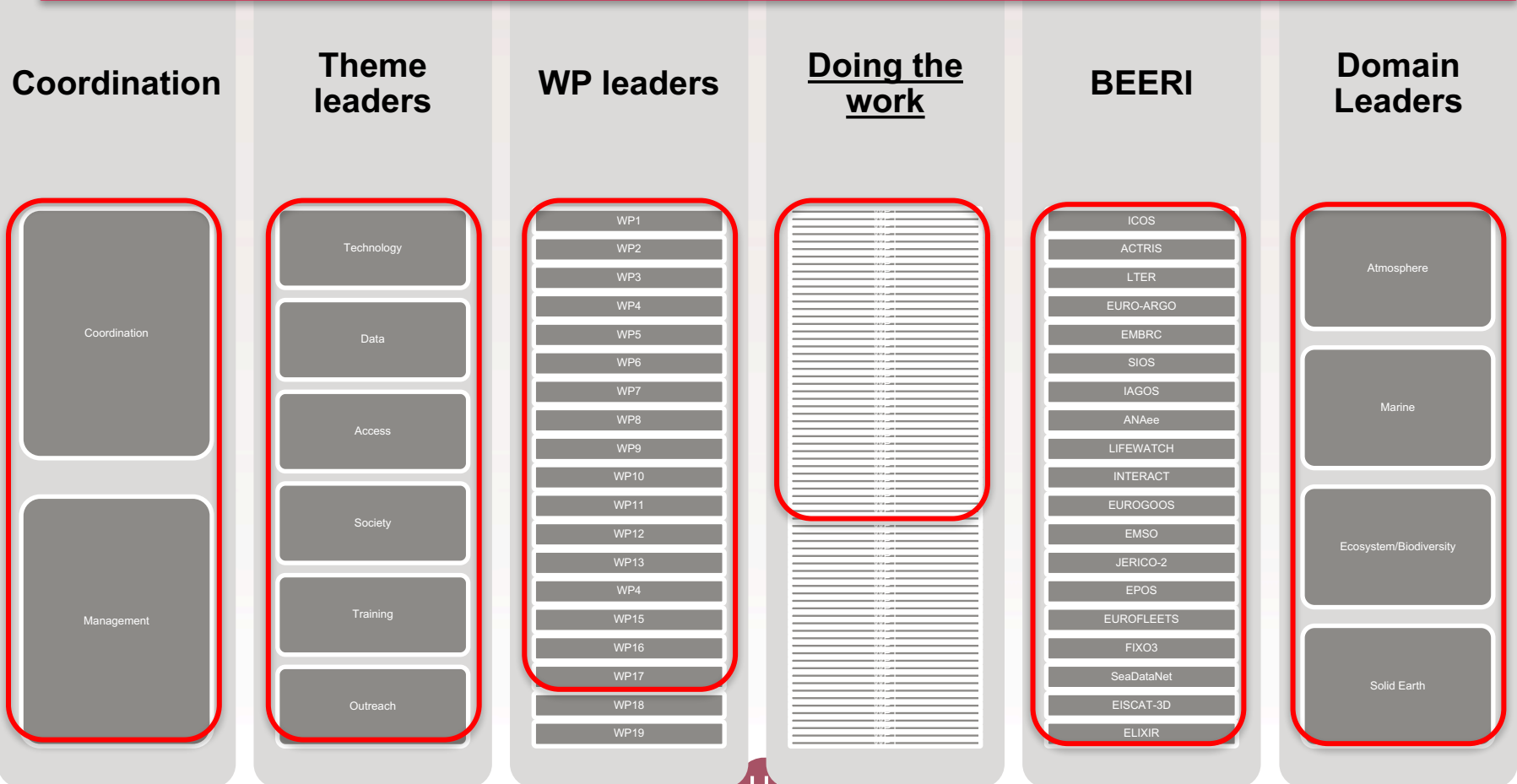


H2020 Project

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ADDRESSING ENVRIPLUS COMMUNITY

ENVRI addressing the whole community of personnel involved in RI operations



ENVRIPLUS IMPACT AT SINGLE RI

- **Import new tools to single RI**
- **Addressing the whole RI lifetime from technologies, to data management, training, access, communication...**
- **Subsidiarity principle applies, what is best done at single RI is done at single RI;**
- **Use-case approach to favour implementation (all themes)**



ENVRIPLUS IMPACT AT SINGLE RI

- Tools adopted by single RIs
- Pooling together resources not available at single RI level:
 - Ethical issues (Theme 4)
 - Reference model for data management (Theme 2)
 - Applied at ICOS, EISCAT-3D, EMSO, EUFAR
 - To be applied at EUROARGO, EPOS, LTER
 - Energy-unit for extreme environments (Theme 1)
 - Best practice in communication and access (Theme 3, 5)
 - ...more in the future

ENVRI's performance indicator



ENVRIPLUS IMPACT ON EU RI GOVERNANCE AND OPERATIONS

Do it better together

- Surveys brought a very complete view of RI operations across domains : technologies, Access modalities, communication, private partnership,...
- Joint experiments in Theme 1
- Building an interoperable framework for data management (Theme 2)
- Raising RI skills (Theme 5)
- BEERI, a single voice for ENVRI strategies (theme 6)
- Joint Communication EGU, AGU, (Theme 4).
- ...



H2020 Project



ENVRIPLUS IMPACT ON EU RI GOVERNANCE AND OPERATIONS

● Do it better together

- Building the RI landscape (domain and cross-domain).
Coordination/BEERI level discussions

- Promoting joint projects (joint responses to EOSC pilot, GEO related calls), COPENICUS and GEO

- ENVRI – COPENICUS WS

 - Ris recognized as main contributors to in-situ component

 - EEA foundations project

- ENVRI – GEO more problematic

- Contribution to future organization of Terrestrial ecosystem landscape (theme 4)



IMPACT OF QUALITY, QUANTITY AND DIVERSITY OF SERVICES OFFERED BY RIS:

- Not yet measurable

- Most recent INFRAIA projects have been constructed in the ENVRI framework

- Reference model

- Access model

- Ethical issues



INCREASED CAPACITY FOR JOINT MANAGEMENT OF ENVIRONMENTAL CRISIS;

● Ethical Framework developed in Theme 4

- Will be applied/used by many ENVRI
- Will raise awareness of ENVRI in relation to natural disasters and environmental crisis
- Theme 5 staff exchange program may be used to share knowledge on those issues



BUILDING NEW SCIENTIFIC KNOWLEDGE

- ENVRI, a true multi-disciplinary project
- Addresses strategic issues but also leverage on joint operations
- cross-domain access program (Theme 3)
- Implementation of Use-cases
- Test new technologies on drones (theme 1)
- Joint experiments (methane from seafloor to atmosphere) involving different RI



INNOVATIVE USE OF DATA AND DATA-PRODUCTS

- ACCESS is cross-domain oriented (Theme 3)
- Joint training schools (theme 5)
- Use-case implementation (theme 1 and 2)
- ...



H2020 Project



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INNOVATIVE USE OF DATA AND DATA PRODUCTS

US#	RIs	Partners
SC_3	LifeWatch-SW, EGI	UGOT, EGI, CNR, CU, EPOS, PANGAEA
TC_2	EuroArgo, EMSO, ICOS-SOCAT, EGI, EUDAT	IFREMER, Uni of Bremen, EGI, Uni of Bergen, CNR, EUDAT, Uni Westminster
TC_4	EMSO, EPOS, EuroArgo, Marine Gliders, ICOS, Drones, EGI	IFREMER, CU, Plocan, NERC/BODC, LOCEAN, RESIF, IPSL
TC_16	EMSO, SeadataNet, JERICO, EMBRC, EMODNET, COPERNICUS, EGI	CU, MBA, EGI
IC_1	ICOS, ANAEE, ACTRIS, LTER, IAGOS	ICOS, ANAEE, ACTRIS, LTER, IAGOS, PANGAEA
IC_2	LTER, ICOS, EUDAT	EAA, EUDAT
IC_3	EISCAT-3D, EGI	EISCAT, CNR, EGI
IC_8	EMSO, EuroArgo, EPOS, ICOS, LTER, EUDAT	IFREMER, ANAEE, EUDAT, IAGOS, ICOS, LTER
IC_10	LTER, EMBEC, LifeWatch-ITA	EAA
IC_11	LTER, ICOS	UvA, EAA
IC_12	EUFAR, LTER	EAA, DLR, Umweltbundesamt
IC_13	ICOS, LTER, ANAEE	UNITUS, CNR, LU
IC_14	EMSO, FIXO3, ANAEE, EGI	UniHB, ANAEE, EGI

ENHANCING PARTNERSHIP WITH PRIVATE SECTOR

- ENVRI, large enough to be identified as key partner
- Defining current level of partnership with private sector (user, co-developer, etc..)
- Defining industry sectors most interested in collaborating with ENVRI (manufacturing, services, etc..)
- Defining the suited communication to sell RI services
- Task-force organised in Theme 6
- 1st Industry forum
 - 52 private partners responded and are present in Grenoble
 - Identify EU programs suited for PPP
 - Metrology aspects are central



ADDRESSING THE NEEDS FOR STANDARDIZATION FOR ESSENTIAL ENVIRONMENTAL VARIABLES :

- ENVRI, large enough influence standardization process for key environmental variables
 - Sets of variables addressed by different Ris (Theme 1)
 - Towards joint CH₄ calibration procedures
 - Certification for extreme environments (Theme 1)
- Established links with National Metrology Institutes
 - ENVRI supporting EMPIR/EURAMET projects (Theme 6)
- 1st Industry forum



CONCLUSIONS :

- ENVRI addresses the whole life-cycle of Research Infrastructures – technologies, data management, training, communication, access
- Numerous issues are better treated as ENVRI and cannot be addressed in single RIs
- A growing ENVRI community also within RI operators – unique platform for sharing and developing tools
- A truly multi (inter)-disciplinary project
- Future work
 - Ensure implementation of ENVRI tools (through use-cases)
 - National ENVRI communities
 - Ensure that we identify the proper KPIs for measuring success - More to come as project develops

